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## DESCRIPTION OF INVENTION FOR CERTIFICATE OF AUTHORSHIP

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(54) ENDO-DEVICE FOR HIP JOINT  
RECONSTRUCTION

(57) The present invention refers to  
medicine, specifically to traumatology and

orthopedics and is intended for  
reconstruction of hip joints deteriorated by  
pathology. The purpose of the present  
invention is simplification of the design. The  
present endo-device for reconstruction of the  
hip joint contains a spherical head 1,  
semispherical support 2, threaded rod 3 with  
protuberance 4 to be inserted into the  
femoral bone, and screw 5. Semispherical  
support 2 has pins 6 and 7 to be attached to  
the hip bone and apertures through which  
the bolts are passed to attach support 2 to the  
hip bone. 4 il.

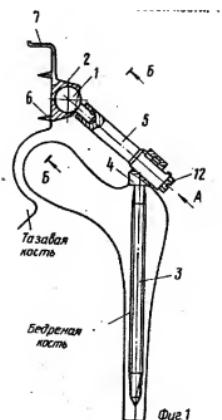


Figure 1.  
Hipbone  
Femoral bone

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The present invention refers to medicine, specifically to traumatology and orthopedics and is intended for reconstruction of hip joints deteriorated by pathology.

The purpose of the invention is simplification of design of the endo-device.

Figure 1 shows the proposed endo-device in frontal section; figure 2 shows the same in lateral sagittal plane view; figure 3 shows view A from figure 1; figure 4 shows section B-B from figure 1.

Endo-device for reconstruction of the hip joint contains spherical head 1, base designed as semispherical support 2, threaded rod 3 with protuberance 4 to be inserted into the femur and screw 5 inserted into the protuberance 4 and carrying spherical head 1. Semispherical support 2 has pins 6 and 7 to be attached to the hip bone.

Semispherical base 2 has apertures 8 through which the bolts (not shown) are passed to attach base 2 to the hip bone. Screw 5 is attached relative to spherical head 1 and the plug with 4 mounting elements 9 and 10 respectively and has head 11 to be turned with a key or with a screwdriver.

The present endo-device is adjusted and operated as follows.

Threaded rod 3 is inserted into the femoral intramedullary canal till rod 3 is thrust against the bone. Screw 5 is inserted into protuberance 4 of rod 3 and attached to spherical head 1 via mounting element 9.

Spherical head 1 with semispherical base 2 is attached to the hip bone via pins 6 and 7 and fixed onto the bone with bolts (not shown) passed through apertures 8.

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Required distance between the femoral head and the acetabulum is ensured by rotating screw 5, which is then fixed relative to protuberance 4 using mounting element 10.

Screw 5 is the only changeable element and may be changed for longer or shorter screws depending on the patient's age, gender, constitution and the size of hip joint.

The present endo-device enables all movements of the thigh, ensuring flexion/extension, adduction/abduction and rotation.

The present endo-device enables the surgeon to avoid arthrodesis, resection of femoral head and neck and hip joint replacement with K.M.Sivash endoprosthesis in adults and ensures painless function of the affected joint at least till the end of the growth period in children. Furthermore, the joint is unloaded, and growth of bone tissue and hyaline cartilaginous lining is ensured in the space between the femoral head and the acetabulum.

#### *Summary of Invention*

Endo-device for reconstruction of the hip joint containing a base, threaded rod connected with a screw carrying a spherical head and placed on the base, and mounting elements, distinguished by simplified design with the base designed as a semispherical support with pins containing a spherical head, and the threaded rod having a protuberance containing the end of the screw.

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